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## Japanese Beetle Adults Emerge in Southern Iowa

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# Japanese Beetle Adults Emerge in Southern Iowa

## **Abstract**

Japanese beetle is an invasive insect that feeds on corn and soybean plus many other plants. This pest has been in Iowa since 1994 but its distribution in field crops is considered sporadic around the state. Statewide populations in field crops have been variable since 2014 and it is unclear if pressure will be significant this year. Several reports around Iowa indicated high numbers of grubs within fields, but it is not clear if they were Japanese beetle or another closely-related species. Adult emergence well before corn silking is noteworthy.

## **Disciplines**

Agricultural Science | Agriculture

# IOWA STATE UNIVERSITY

## Extension and Outreach

Integrated Crop Management

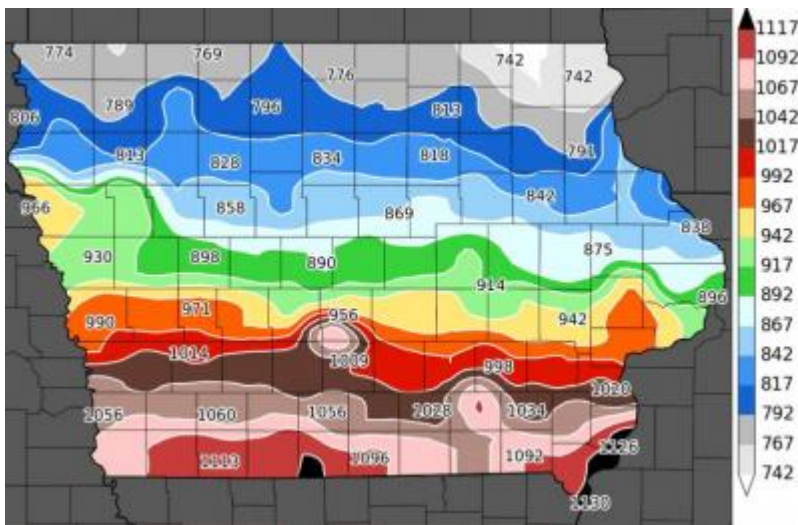
# Japanese Beetle Adults Emerge in Southern Iowa

June 14, 2018

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Japanese beetle is an invasive insect that feeds on corn and soybean plus many other plants. This pest has been in Iowa since 1994 but its distribution in field crops is considered sporadic around the state. Statewide populations in field crops have been variable since 2014 and it is unclear if pressure will be significant this year. Several reports around Iowa indicated high numbers of grubs within fields, but it is not clear if they were Japanese beetle or another closely-related species. Adult emergence well before corn silking is noteworthy.

Japanese beetle adults need about 1,030 growing degree days (base 50°F) to complete development and will continue emergence until around 2,150 degree days. Based on accumulating degree-day temperatures in 2018, Japanese beetle adults should be active in some areas of southern Iowa this week (Figure 1).



**Figure 1. Growing degree days accumulated (base 50°F) for Japanese beetle adults in Iowa (as of June 12, 2018). Adults begin emergence around 1,030 degree days. Map courtesy of Iowa Environmental Mesonet, ISU Department of Agronomy.**

## Life cycle

Japanese beetles have one generation per year in Iowa (Photo 1). Adults emerge from grass in late June and immediately begin to feed on low-lying plants. Adults eventually move up on trees and field crop foliage to feed and mate. Mated females move back to grass in August and September to lay egg masses in soil cavities. The eggs hatch into small grubs that feed on roots until late September when the temperature cools. The almost fully-grown grubs burrow down in the soil and remain inactive all winter. In the early spring, grubs become active again and feed until turning into resting pupae. The pupae hatch into adults and emerge from the soil.



**Photo 1. Adults are metallic bronze and green with white tufts along the side of the abdomen.** Photo by David Cappaert,

[www.ipmimages.org](http://www.ipmimages.org).

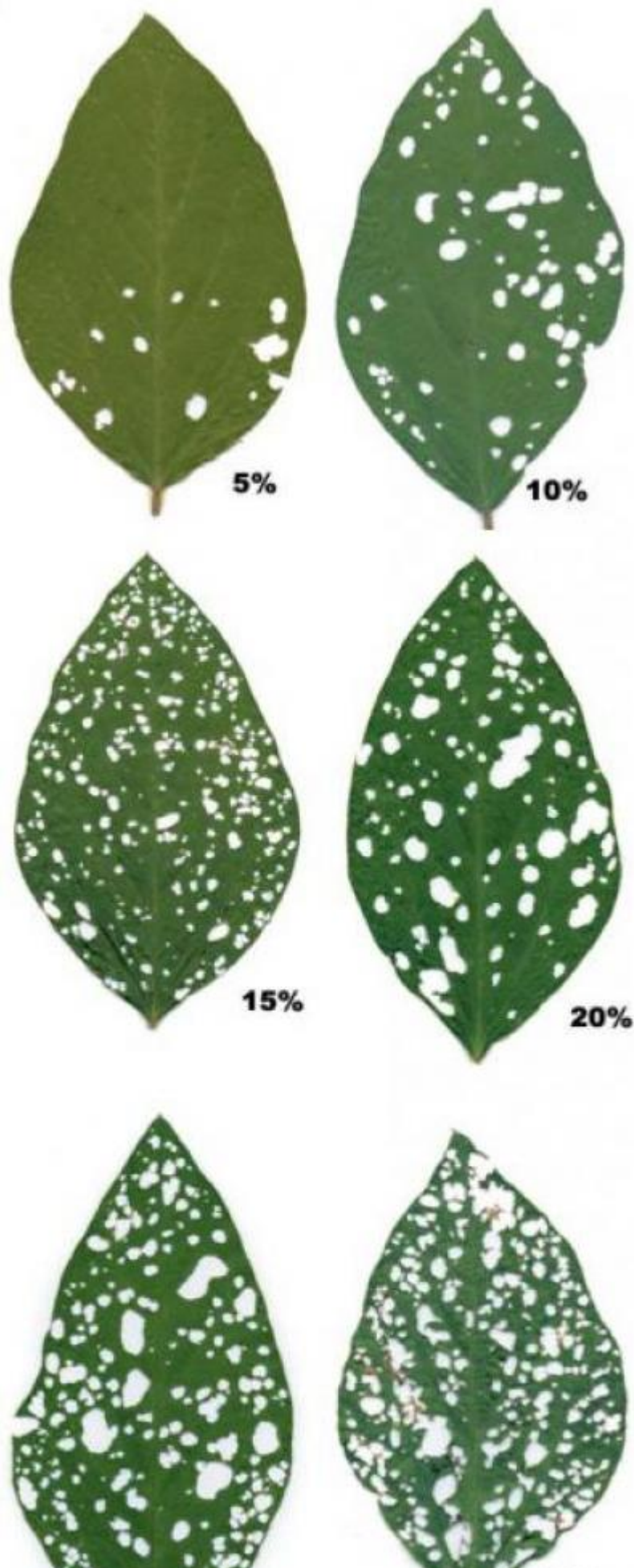
## Plant Injury and Management

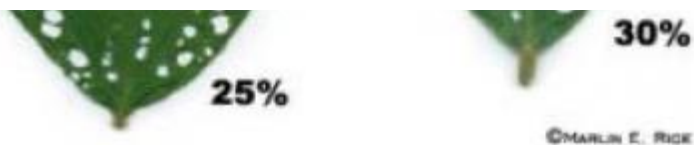
Japanese beetles have a wide host range that includes many species of fruit and vegetable crops, ornamentals and field crops. On soybean, adults prefer to feed between the leaf veins and can ultimately consume most of the leaf (Photo 2). The treatment threshold for Japanese beetle in soybean is 30% defoliation before bloom and 20% defoliation after bloom. It is important to note most people tend to overestimate plant defoliation. Use Photo 3 to help calibrate defoliation estimates.



**Photo 2. Japanese beetles skeletonize soybean leaves.** Photo by Mark Licht, ISU.







**Photo 3. Approximate percent defoliation on soybean.** Photo by Marlin E. Rice.

In corn, Japanese beetles can feed on leaves, but the most significant injury comes from clipping silks during pollination (Photo 4). Consider a foliar insecticide during tasseling and silking if: there are three or more beetles per ear, silks have been clipped to less than 1/2 inch, AND pollination is less than 50% complete.



**Photo 4. Japanese beetles are strongly attracted to silking corn.** Photo by Erin Hodgson, ISU.

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**Category:** Crop Production Insects and Mites



**Crops:**

Corn Soybean

**Tags:** pest scouting beetle defoliation

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Dr. Erin Hodgson started working in the Department of Entomology at Iowa State University in 2009. She is an associate professor with extension and research responsibilities in corn and soybeans. She has a general background in integrated pest management (IPM) for field crops. Dr. Hodgson's curre...